

ABSTRACT

To provide a surface-acoustic-wave-sensor included oscillator circuit that is unlikely to cause separation of an electrode film due to application of a bias voltage and that is capable of stably operating even if liquid is adhered thereto.

A surface-acoustic-wave-sensor included oscillator circuit 31 has interdigital electrode 33 and 34 formed on a piezoelectric substrate and a reaction film that is formed so as to cover the interdigital electrodes 33 and 34 and that is bound to a target substance or a binding material to be bound to the target substance. A surface acoustic wave sensor 32 capable of detecting a bit of mass loading on the basis of a variation in frequency is connected as a resonator in the surface-acoustic-wave-sensor included oscillator circuit 31. Direct-current cutting capacitors 36 and 42 are connected in series to the surface acoustic wave sensor 32, and the direct-current cutting capacitors 36 and 42 respectively form impedance matching circuits in the surface-acoustic-wave-sensor included oscillator circuit 31.